

### **Remarks**

Claims 1-7 and 9-20 are currently pending in the application. By this amendment, claim 12 overcomes the objection in the Office Action. No new matter has been added to the claim by the amendment contained herein. Reconsideration and withdrawal of all pending objections in view of the above amendment and following remarks is respectfully requested.

Moreover, by this amendment, claims 1, 4, 11, 12, 16, and 18 are amended to overcome the rejections in the Office Action. No new matter has been added. Support for the amendments is discussed below. Reconsideration and withdrawal of all pending rejections in view of the above amendments and following remarks is respectfully requested.

Applicant notes with appreciation the Examiner's acknowledgement of Applicant's claim for foreign priority under 35 U.S.C. § 119 and receipt of the certified copy of the priority document.

### **Objections to Claims**

In the Office Action, Examiner objected to claim 12 because two words lacked a space between them. This objection has been overcome by amending claim 12 to state "phosphor pattern" rather than "phosphorpattern."

In view of the above amendment and argument, withdrawal of all objections to the claims is respectfully requested.

### **Double Patenting**

In the Non-Final Office Action, Examiner advised that if claim 15 is found allowable, then claim 18 will be objected to under 37 C.F.R. § 1.75 as a duplicate of claim 18. Claim 18 has been amended to depend upon claim 17 rather than claim 15.

In view of the above amendment and argument, applicant submits that an objection under 37 C.F.R. § 1.75 would be moot. Applicant notes with appreciation the Examiner's advisory statement regarding this potential objection.

### **35 U.S.C. § 102(e) Rejection**

Claims 1, 2, 3, 4, 5, 6, 11, and 16 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Juestel, et al., U.S. Patent Application Publication No. 2002/0113552 ("Juestel"). This rejection is respectfully traversed.

In order for a rejection under 35 U.S.C. § 102(b) to be proper, a single reference must disclose every claimed feature. To be patentable, a claim need only recite a single novel feature that is not disclosed in the cited reference. Thus, the failure of a cited reference to disclose one or more claimed features renders the 35 U.S.C. § 102(b) rejection improper.

Claim 1, as amended, claims a "red phosphor pattern containing  $\text{Y(V,P)O}_4\text{:Eu}$  and  $\text{(Y,Gd)BO}_3\text{:Eu}$  and having a red-color purity ranging from 0.657 to 0.670 for a chromaticity coordinate value x and from 0.322 to 0.332 for a chromaticity coordinate value y." As examiner noted in the Office Action, Juestel does not teach a red phosphor layer with both phosphors and with red-color purity coordinates between 0.657 and 0.670 for x and between 0.322 and 0.332 for y. Therefore, in view of this amendment, applicant respectfully requests that the rejection under 35 U.S.C. § 102(e) be withdrawn.

Claims 2-3 depend from claim 1, which is an allowable claim. Hence, claims 2-3 are also allowable.

Claim 4, as amended, claims "the red phosphor pattern contains  $\text{Y(V,P)O}_4\text{:Eu}$  and  $\text{(Y,Gd)BO}_3\text{:Eu}$ , and the red light has an afterglow decay time of 4.0-8.8 ms." As examiner noted in the Office Action, Juestel does not teach a red phosphor layer with both phosphors and with an afterglow decay time of 4.0-8.8 ms for red light. Therefore, in view of this amendment, applicant respectfully requests that the rejection under 35 U.S.C. § 102(e) be withdrawn.

Claims 5-6 depend from claim 4, which is an allowable claim. Hence, claims 5-6 are also allowable.

Claim 11, as amended, claims "the red phosphor pattern includes two phosphors with a combined red-color purity ranging from 0.657 to 0.670 for a chromaticity coordinate value x and from 0.322 to 0.332 for a chromaticity coordinate value y." While Juestel discloses a single red phosphor with red color

purity within the claimed ranges, Juestel does not disclose plural red phosphors with red color purity within the claimed range. Therefore, in view of this amendment, applicant respectfully requests that the rejection under 35 U.S.C. § 102(e) be withdrawn.

Claim 16, as amended, claims "the red phosphor pattern includes two phosphors with a combined red-color purity ranging from 0.660 to 0.670 for a chromaticity coordinate value x and from 0.322 to 0.332 for a chromaticity coordinate value y." As argued with respect to Claim 11, Juestel discloses a single red phosphor with red color purity within the claimed range, but does not disclose plural red phosphors with combined red color purity in the stated range. Therefore, in view of this amendment, applicant respectfully requests that the rejection under 35 U.S.C. § 102(e) be withdrawn.

Accordingly, withdrawal of the rejection of claims 1, 2, 3, 4, 5, 6, 11, and 16 is respectfully requested.

### **35 U.S.C. § 103(a) Rejection**

Claims 7, 8, 9, 10, 12, 13, 14, 15, 17, 18, 19, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Juestel, et al., U.S. Patent Application Publication No. 2002/0113552. This rejection is respectfully traversed for at least the following reasons.

First, examiner has improperly combined Juestel with the Kasei-Optonix website in rejecting claims 7, 8, 9, 10, 12, 13, 14, 15, 17, 18, 19, and 20. The submitted Kasei-Optonix website is undated and the cited information may not have been published prior to the priority date for this patent application of November 6, 2002. Thus, the website may not properly be relied upon as prior art in a § 103(a) rejection. For at least this reason, applicant requests withdrawal of the § 103(a) rejection for all claims.

Secondly, to establish a prima facie case of obviousness, the examiner must put forth three criteria. First, there must be some suggestion or motivation to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the reference or references, when

combined, must disclose or suggest all of the claim limitations. The motivation to modify the prior art and the reasonable expectation of success must both be found in the prior art and not based upon a patent application's disclosure. See *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Examiner has failed to establish a prima facie case of obviousness. Assuming, *arguendo*, that the references can be combined, the combined references do not disclose or suggest all of the claim limitations.

Regarding claims 7, 9, 13, 15, 19, and 20, Juestel combines two types of red phosphors in various proportions. However, the only color point disclosed by Juestel that falls within the range claimed in claims 7, 9, 13, 15, 19, and 20 is color point 25, as shown in Fig. 3 of Juestel, which represents 100% Y(V,P)O<sub>4</sub>:Eu. Thus, Juestel does not suggest or disclose that these color purity ranges can be achieved with combined phosphors. Thus, there is no suggestion or motivation to seek out these claimed ranges.

Further, the color purity ranges claimed herein with plural red phosphors partially exceed the color points achieved by Juestel with 100% of Y(V,P)O<sub>4</sub>:Eu. Thus, in view of Juestel's disclosure, it would not have been obvious to one skilled in the art to modify percentages of the two red phosphor components to achieve coordinates that exceed the coordinates achieved by Juestel with 100% Y(V,P)O<sub>4</sub>:Eu.

Finally, neither reference cited by the Examiner discloses the color purity ranges for plural phosphors claimed herein. At most, Juestel discloses a red phosphor pattern with plural phosphors with a chromaticity coordinate value x of less than 0.65, as shown by color point 24 on Fig. 3 of Juestel. Thus, there is no overlap of ranges to support a prima facie case of obviousness. Therefore, the examiner has failed to establish a prima facie case of obviousness with respect to claims 7, 9, 13, 15, 19, and 20, and withdrawal of the § 103(a) rejection is hereby requested.

Further, in view of the amendments to claims 1, 11, and 16, Applicant asserts that the above argument also supports patentability of claims 1, 11, and 16.

Regarding claims 10, 12, 14, and 17, Juestel combines two red phosphors. However, Juestel does not disclose any ranges of afterglow decay time for the combined phosphors, nor does Juestel disclose the relative impact from each of the two combined red phosphors on the resulting afterglow decay time for the combined phosphors. Thus, there is no potential for overlapping ranges to support a prima facie case of obviousness.

Assuming, *arguendo*, that the references stated by the examiner can be combined, the claimed range of afterglow decay time is not disclosed. Further, because of the lack of disclosure in Juestel regarding the effect on combining the two phosphors, there was no reasonable expectation of success for achieving the claimed ranges with a combination of the two phosphors. Therefore, the examiner has failed to establish a prima facie case with respect to claims 10, 12, 14, and 17, and withdrawal of the § 103(a) rejection is hereby requested.

Further, in view of the amendment to claim 4, Applicant asserts that the above argument also supports patentability of claim 4 and those claims that depends from claim 4.

Because claim 8 has been cancelled, the § 103(a) rejection has been rendered moot and applicant requests withdrawal of the rejection.

Claim 18 has been amended to depend upon claim 17. Because claim 17 is an allowable claim, claim 18 is also an allowable claim.

Accordingly, applicant respectfully requests that all rejections over claims 1-20 as amended be withdrawn.

**Conclusions**

Applicants submit that a full and complete response has been made to the pending Office Action and respectfully submit that all of the stated objections and grounds for rejection have been overcome or rendered moot. Accordingly, Applicant respectfully submits that all pending claims are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is thus respectfully requested to pass the above application to issue.

Should the examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact the Applicant's undersigned representative at the number below to expedite prosecution. Prompt and favorable consideration of this amendment is respectfully requested. Applicant respectfully requests that a timely Notice of Allowance be issued for this application.

Respectfully submitted,



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